Yamaha YZ250 Front Tire Repair

Table of Contents

Contents

..... 1
Table of Contents iii
Introduction v
Legend v
Preparing Motorcycle for Repair 7
- 1.1 Clean Motorcycle 7
- 1.2 Clean Work Space 7
- 1.3 Prop Motorcycle on Stand 7
- 1.4 Tools Required 7

Chapter 1 3
1.1 Clean Your Motorcycle 3
Rinse, Wash, and Dry 3
1.2 Clean Workspace 4
Clear Debris 4
1.3 Prop Motorcycle on Stand 5
Different Stands Available 5
Removal of Front Wheel 7
Chapter 2 9
2.1 Loosen Fork Bolts 9
Tools Needed 9
Procedures 9
2.2 Remove Axel and Wheel from Forks 10
Tools Needed 10
Remove Axel Lug Nut 10
2.3 Remove Wheel from Forks 11
Remove Axle and Spacers 11
Remove Disc from Caliper 11

Prepare front Wheel 11
2.4 Remove Tire from Rim 12
Tools and Supplies Needed 12
Procedures 13
Removing Tire from Rim 13
2.5 Inspection of Wheel Components 14
Inspection of Inner Tube 14
Inspection of Tire 14
Inspecting the Rim 15
Front Wheel Reassembly 17
Chapter 3 19
3.1 Replace Inner Tube into Tire 19
3.2 Replace Tire onto Rim 19
Tools and Supplies Needed 19
Procedures 20
3.3 Replace Wheel between Forks 21
Tools Needed 21
Procedures 22
3.4 Tighten Fork Bolts 22
Tools Needed 22
Procedures 23
Testing Repair 25
Chapter 4 27
4.1 Spin Test 27
How to Perform the Spin Test 27
4.2 Break Test 28
How to Perform the Break Test 28
4.3 Standing Test 29
How to Perform the Standing Test 29
4.4 PSI Test 29

Tools Needed 29
How to Test PSI 30
Works Cited 31
Index 31

Introduction

In this manual are techniques and added information on how to replace the front tire on a Yamaha, model YZ250, year 2001. This manual is to be used for its intended purpose and will not be a reasonable substitute for any other motorcycle. Replacing the front tire on a 2001 YZ250 can be a difficult task requiring specific tools and prior mechanical experience. It is not suggested to attempt to replace or repair any parts without proper experience.

The Yamaha 2001, YZ250 has a very specific front end designed to be solid and dependable yet relatively easy to replace or repair. With the proper tools this manual will guide you through the step-by-step processes necessary to maintaining your front end. Please be careful to follow each step thoroughly in order to ensure a proper and safe fix.

Legend

Here are the different symbols that will be used throughout this manual:

This symbol will be used to describe any warnings.

Preparing Motorcycle for Repair

- 1.1 Clean Motorcycle
- 1.2 Clean Work Space
- 1.3 Prop Motorcycle on Stand

Chapter 1

1.1 Clean Your Motorcycle

Cleaning your motorcycle prior to performing any maintenance is a crucial step which must not be overlooked. Attempting to work on your YZ250 without following this step could result in major damages.

Rinse, Wash, and Dry

- First start by rinsing all loose particles off of you motorcycle making sure to wet the entire bike.

- Next, apply soap to a wet rag or sponge and begin to thoroughly scrub off all remaining dirt and grime.

- After all the dirt has been removed proceed to rinsing any remaining particles off with water.

- Finally, dry your motorcycle with a towel ensuring not to leave any parts wet which could result in rust damage.

1.2 Clean Workspace

Your workspace is an important environment which must be kept clean in order to work efficiently.

Clear Debris

- Clearing away any clutter is a necessary step prior to working on your motorcycle to help prevent you from losing any parts.
  - As displayed in the photo to the right, you should have a work space free of any debris.
  - Also be sure to have plenty of room to move around the bike.
    - This is crucial in order to:
      - Maintain leverage when removing bolts.
      - Step back incase bike falls.
      - Have room to place parts you have removed.

1.3 Prop Motorcycle on Stand

To remove the front tire from your motorcycle you must first place the dirt bike onto its stand.

Different Stands Available

There are many different stands available:

- Classic floor stand
  *

- Foot Jack
  *

- Motorcycle Jack
  *

Removal of Front Wheel

Chapter 2
2.1 Loosen Fork Bolts

Before removing the wheel from your YZ250 you must loosen the bolts squeezing the forks (front suspension) to the bolts.

Tools Needed

- Socket set
-

Procedures

- First locate the 8mm socket and attach it to the wrench.
- Find the two bolts located at the bottom of each fork.
- Ensure your ratchet is set to loosen and twist the bolts off to the left.

2.2 Remove Axel and Wheel from Forks

Warning: When removing the axel from the forks the wheel will drop directly toward the ground. This could cause injury. Be sure to remove any items away from under the wheel and if possible secure the wheel to keep it from falling.

Tools Needed

- Tire Iron
  -
- Hammer
  -

Remove Axel Lug Nut

- Start by locating the end of the tire iron that is 22mm in diameter.
- Next loosen the lug nut until it is almost off but still attached to the axel.
- Now use your hammer to tap on the lug nut until the axel is pushed most of the way through.
- Remove the lug nut.
- Finally, grab the axel (from the opposite end of lug nut side) and pull while securing the wheel. This will release the wheel and axel from the fork.

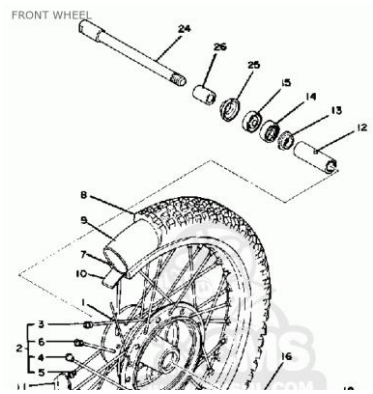
2.3 Remove Wheel from Forks

After removing the axel from the forks the wheel will be released. In order to properly remove the wheel from the forks you should follow these steps:

Remove Axle and Spacers

Ensure the axle and spacers are completely removed from both front forks.

- When removing the axle (number 24 in the picture) the spacers number (12 and 26) will fall.

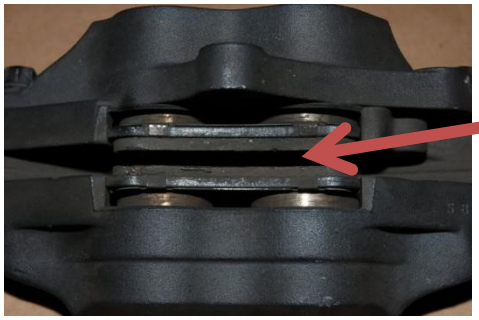


- The bearings (13, 14, 15, and 25) will remain inside the rim protected from dirt and debris.

Remove Disc from Caliper

Pull front wheel directly forward to be sure the disc break is not bent or warped.

- To the left is an image of the front caliper.



- Warning! The disc fits directly between the two brake pads and must be pulled out straight to prevent any damage.

Prepare front Wheel

Prepare front wheel to remove the tire and inner tube from the rim.

- Deflate inner tube completely by **removing the valve stem:** Do this by placing the two pronged side of the valve stem remover into the valve and twist firmly to the left. Continue twisting until valve stem falls out.
- Find a hard smooth surface (preferably concrete).
- Lay the front wheel on its side making sure to place the side with the disc face up.

2.4 Remove Tire from Rim

Warning! Removing the tire from the rim requires much strength and skill. Do not attempt to remove the tire without previous experience or help from a professional. Pinching may occur causing harm to you and or your tire.

Tools and Supplies Needed

- Tire
  -
- Valve Stem Remover
  -
- Dish Soap
  -
- Socket Set
  -
- Bowl of Water
  -

Procedures

- After preparing your front wheel for tire removal (see end of section 2.3) you must prepare your tools and supplies.
- First, locate and ready your tire irons.
- Then remove your valve stem using the valve stem remover tool.
- Remove the rim lock nut from the rim lock bolt.
- Now mix your soap into the bowl of water until you have suds.
- Next apply the soapy water to the wheel where the tire and rim meet.
- Once soapy water has been applied use the tire irons to pry the tire away from the rim.
  - Warning! This step may cause severe pinching to the tire, inner tube, or you. Please do not attempt to remove tire from rim without previous experience or under the supervision of a professional.

Removing Tire from Rim

- Step1: Start by wedging your tire irons between the tire and the rim.
- Step2: Push down on tire iron as to force the tire up over the rim.
- Step3: Do the same for the tire irons on either side.
- Step4: Repeat until the first edge of your tire is completely off of the rim.
- Step5: Pull the tube from between the rim and tire through the gap you just created.

- Step6: Flip the front tire over and use your tire iron flip a small section of the tire completely off of the rim.
- Step7: Once you push enough tire over the rim, grab the rim and pull away from the tire.
- Step8: After pulling the tire away from the rim pull the rim straight up out from the tire.

2.5 Inspection of Wheel Components

The wheel components, inner tube, tire, and rim are all crucial parts that together help to maintain structural integrity of the dirt bike. It is vital that these parts be examined closely prior to reconstruction and before each ride.

Inspection of Inner Tube

- Start the inspection by first filling the inner tube with a small amount of air.
  - Once slightly inflated you should begin squeezing the inner tube checking for leaks by:
    - Listening for the leaking air
    - Feeling for punctures or rough parts on the tube
    - Submerge a portion of the inner tube into the soapy water used previously and squeeze the tube while rotating the entire tube through the water. When you see bubbles you have found the source of the leak.

- If your inner tube is punctured or shows signs of excessive wear replace immediately.
  - If the inner tube has a very minor puncture then you may attempt to patch the leak, but it is highly recommended that you replace the inner tube.

- Warning! Failure to properly patch a puncture could cause a leak in your inner tube and a definite loss of control over your motorcycle.

Inspection of Tire

- Inspect the tire by first checking the tread for excessive wear or tearing.
  -

The tire in the picture to the left shows an extreme amount of wear to the tread. Your tire should never reach this amount of wear without being replaced. Extreme wear similar to what is shown can cause violent tire blow outs resulting in the loss of control of your motorcycle.

Inspecting the Rim

- You should search for any signs of compromise in the rims structural integrity.
  - Things to look for:
    - Large indents where the rim and tire make contact
    - Deep scratches or server scuffing of rim
    - Rim that is warped, cracked, or missing spokes (such as in the picture to the right)

Front Wheel Reassembly

Chapter 3
3.1 Replace Inner Tube into Tire

Warning! Place inner tube inside of the tire prior to placing the tire on the rim. DO NOT place inner tube on rim and then attempt to replace the tire. This could result in the tube being pinched and torn.

- Fill your inner tube with a small amount of air just enough to help hold the tube inside the tire.
- Be sure to tuck any excess tubing into the tire to avoid any accidental pinching.

- The inner tube should be tucked within the tire.

3.2 Replace Tire onto Rim

Be careful to not pinch yourself or your inner tube when replacing your front tire onto its rim.

Tools and Supplies Needed

- Tire Irons
  -

- Valve Stem Remover
  -

- Dish Soap
  -
- Bowl of Water
  -
- Socket Set
  -

Procedures

It is time to replace the tire onto its rim after placing the tube completely inside the tire (see previous section).

- Step1: Start by lubing the tire and rim with the soapy water to ease the process of replacing the tire.
- Step2: Locate the valve stem hole in the rim and correctly position the stem into the hole.
- Step3: Place the rim disc side down.
- Step4: Sit the tire on top of the rim first ensuring the rim lock is securely in between the tire and inner tube.
- Step4: Use your tire irons to pry the first side of the tire onto the rim.

- Step5: Turn the wheel over so that the disc break is now facing up.
- Step6: Begin prying the other side of the tire onto the rim attempting to avoid pinching the tube.
- Step7: Once the tire has been put back onto the rim completely use your socket set to tighten the valve stem and rim lock nuts.
- Step8: Replace the valve back into the valve stem with the valve stem remover tool.

3.3 Replace Wheel between Forks

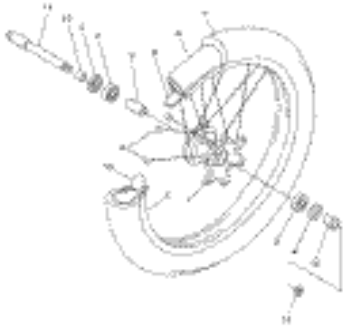
Replacing the wheel between the forks is a fairly simple process but must be done carefully as to not cause a malfunction later on.

Tools Needed

- Tire Iron
  -
- Hammer
  -
- Air Pump
  -

Procedures

The axle will need to be readily accessible when putting the front wheel back between the forks.



- Step1: Take the front wheel and slide the disc break into the gap of the caliper.
- Step2: Align the hole in the rim with the forks.
- Step3: Fit the left and right spacers between the rim and forks.

- Step4: Slide the axel through the fork and rim with the lug nut on the left side of the motorcycle.
- Step5: Use the tire iron to tighten the lug nut after you reassure the axel went through both spacers and the rim.
- Step6: Inflate tire to roughly 20 psi

3.4 Tighten Fork Bolts

By replacing the axle and keeping the wheel in place you will tighten the fork bolts completing the replacement procedures.

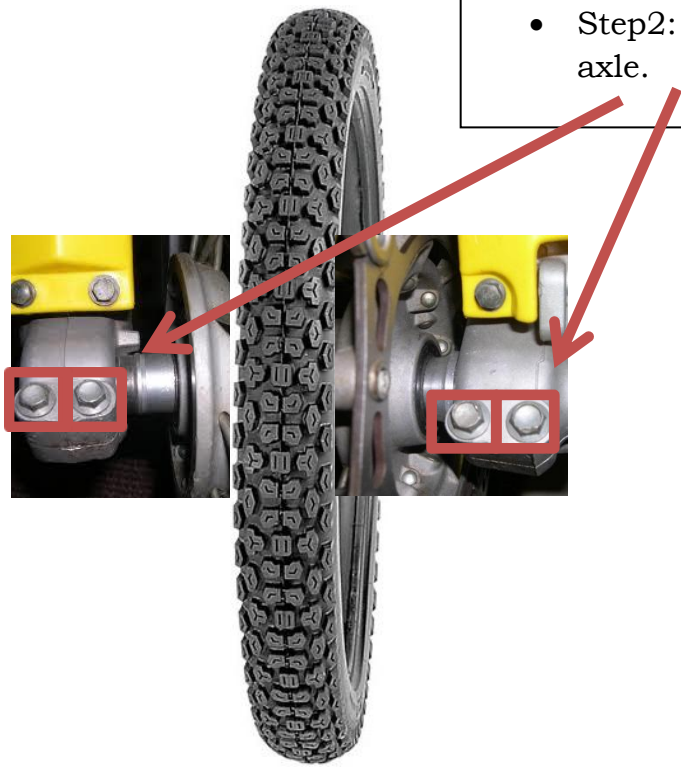
Tools Needed

- Socket Set (8mm)
  -

Procedures

Locate the two bolts at the bottom of each fork directly next to the axle and ready your wrench and 8mm socket.

- Step1: Set your wrench to tighten.
- Step2: Tighten all four bolts to the axle.



Testing Repair

Chapter 4

4.1 Spin Test

The spin test will tell you whether your front tire is off balance, the rim is bent, or if you reassembled something incorrectly.

How to Perform the Spin Test

- Step1: To perform the test you must first make sure that your front tire is off of the ground.
- Step2: Begin to rotate the front wheel in either direction.
- Step3: Interpret your results:
    - Tire is wobbling—
      Either rim is bent or the axle was not reassembled properly.
    - Tire swings back and forth to a stop—
      Something in the tire is off balance.

- Spin the front tire to check for any problems that may exist.

4.2 Break Test

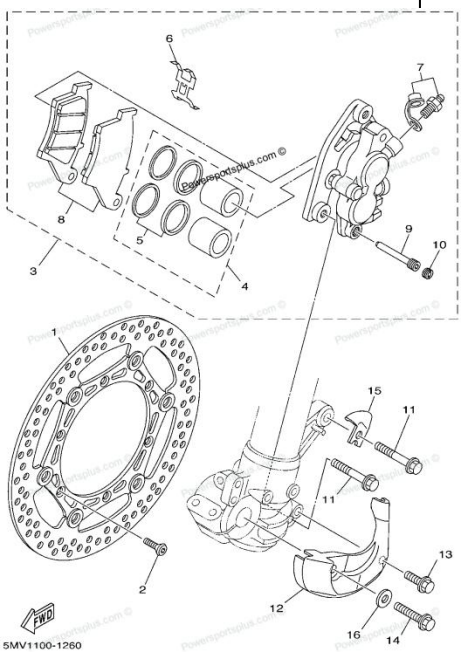
The break test will assure you that your front break is in working order.

How to Perform the Break Test

- Step1: Start by performing the spin test
  -
    - Step1: To perform the test you must first make sure that your front tire is off of the ground.
    - Step2: Begin to rotate the front wheel in either direction.
    - Step3: Interpret your results:
      - Tire is wobbling—
        Either rim is bent or the axle was not reassembled properly.
      - Tire swings back and forth to a stop—
        Something in the tire is off balance.
- Step2: Grab the front break lever located on the right side of the handle bars.
- Step3: Interpret results:
  - If the wheel keeps moving, then the disc did not get placed correctly inside the front breaking caliper.
  - If the wheel slows but does not stop immediately, then check your brake pads for wear.
  - If the wheel stops abruptly, then the front breaks were installed correctly.

❖ This image shows how the disc break (roader) should fit within the caliper.

➢



4.3 Standing Test

The standing test will decide if your motorcycle can stand or if there was an error during reassembly.

How to Perform the Standing Test

- Step1: Prepare a large empty area where you will stand your motorcycle at.
- Step2: Pull your motorcycle from its stand and allow it to hold its own weight.
- Step3: Interpret your results:
  - If the bike falls and the wheel becomes disconnected from the forks, then an error occurred with the axle.
  - If the bike stands, then you have properly put your 2001 YZ250 back together.

4.4 PSI Test

The PSI test will show whether your front tire is holding any air. This test will prove if you were successful in repairing your 2001 YZ250.

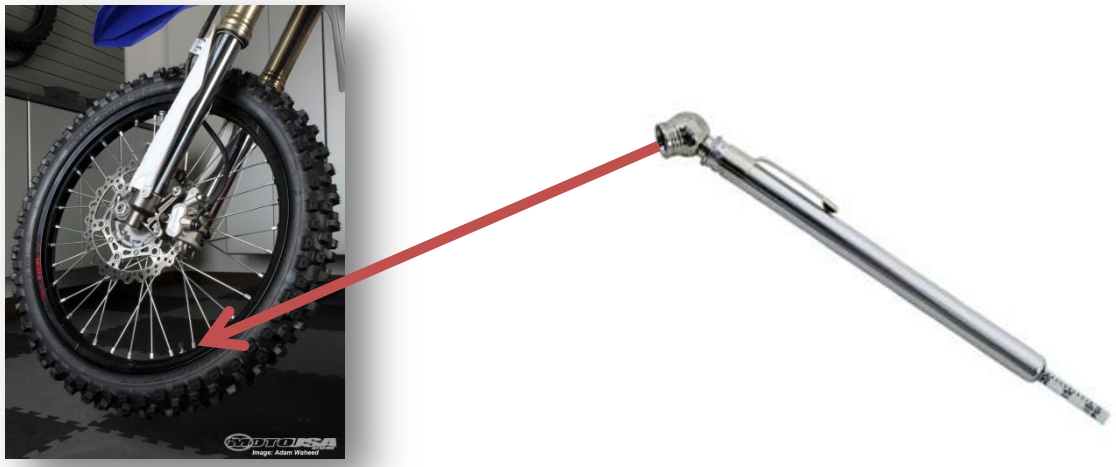
Tools Needed

- PSI Guage
  -

How to Test PSI

Testing the PSI of you dirt bike tire is very simple.

- Step1: Remove valve cap from valve stem.
- Step2: Firmly press your PSI gauge into the valve stem until the stick comes to a complete stop.
- Step3: Interpret your results:
  - If your PSI gauge reads below 20psi, then add air to your tire and test again.
  - If your gauge reads above 20psi, then remove some air and test again.



Works Cited

"Adulting." *Adulting*. N.p., 12 Dec. 2011. Web. 20 Nov. 2012. <http://adultingblog.com/post/14152495690>.

Hilderbrand, JC. "Dirt Bike Tire Change Guide." *Motorcycle USA*. N.p., 08 Apr. 2009. Web. 10 Nov. 2012. <http://www.motorcycle-usa.com/704/2863/Motorcycle-Article/Dirt-Bike-Tire-Change-Guide.aspx>.

Index

Axel, iii, 10
Bolts, iii, iv, 9, 23
Break Test, iv, 28
Dry, iii, 3
Forks, iii, iv, 10, 11, 21
inner tube, 12, 13, 14, 15, 19
Lug Nut, iii, 10
motorcycle, v, 3, 4, 5, 15, 29, 31
PSI Test, iv, 29
repair, v
Rim, iv, 12, 14, 15, 16, 19
Rinse, iii, 3
Socket set, 9
Spin Test, iv, 27
Standing Test, iv, 29
Stands, iii, 5
Tire, iv, 10, 12, 14, 15, 19, 21, 31
Tire Iron, 10, 21
Tools, iii, iv, v, 7, 9, 10, 12, 19, 21, 23, 29
Wash, iii, 3
Yamaha, v
YZ250, v, 3, 9, 29